



Investors

Retailers

Purchasers

NGOs



# Strategies for Managing Chemical Risks

## CHAPTER 2

## Strategies for Managing Chemical Risks

**M**anufacturers use thousands of chemicals of high concern (CoHCs) to make products, and many of these chemicals end up in the final products workers, consumers, and children use every day. BPA, formaldehyde, lead, and cadmium are well known CoHCs, but there are many other lesser known hazardous chemicals. The European Union's REACH Candidate List of Substances of Very High Concern (SVHCs) includes over 160 chemicals. ChemSec's (a European non-governmental organization or NGO) Substitute It Now (SIN) List includes over 800 chemicals. The State of California's Candidate Chemicals List, developed as part of its Safer Consumer Products regulations, includes over 2,000 chemicals. The GreenScreen® List Translator tool developed by the U.S.-based NGO Clean Production

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***Chemical Risks—the financial liabilities companies carry due to hazardous chemicals in their products, supply chains, manufacturing processes, and packaging.***

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Action identifies over 2,700 CoHCs and another 6,000 potential CoHCs. These varied lists point to chemicals that are candidates for future restriction, with the REACH SVHCs and a few chemicals on the California Candidate Chemicals List most likely to be regulated in the near future.



*Companies employing an active chemicals management strategy mitigate their chemical risks and create opportunities for innovating and growing market share and valuation.*

CoHCs in manufacturing and in products present “chemical risks”—the financial liabilities companies carry due to hazardous chemicals in their products, manufacturing processes, supply chains, and packaging. Chemical risks are hidden liabilities when companies do not know the hazardous chemicals in their products and supply chains. For example, companies that manufacture and sell “articles” (hard goods such as computers, toys, apparel, and other non-formulated products) are often unaware that their products even contain hazardous chemicals.<sup>22</sup>

**Strategy: From Passive to Active**

Most companies employ a passive strategy to manage their chemical risks. They wait until regulations, market pressures, or consumer

demands create enough internal pressure to act. Companies employing a passive strategy to chemicals management are vulnerable to losing customer trust, market share, and market valuation, and increasing costs when markets shift, new competitors emerge, and regulations change. In contrast, companies employing an active chemicals strategy seek to use the safest chemicals available, thereby meeting regulations and the needs of their most demanding customers, while anticipating future shifts in laws and markets. To implement an “active” strategy, companies must have significant knowledge about the chemicals in their products and supply chains, assess the hazards of these chemicals, and use safer alternatives.<sup>23</sup>

Companies employing an active chemicals management strategy mitigate their chemical risks and create opportunities for innovating and growing market share and valuation. In contrast, companies that employ a passive strategy are especially vulnerable to regulatory, reputation, and redesign risks.

**Regulatory risks** are the potential costs from current and future regulations. Hazardous chemicals in products and supply chains put companies at risk of failing to comply with regulations. For example, when retailers in the U.S. failed to

TABLE 1 **Regulatory Risks: Management Strategies and Their Potential Costs/Opportunities**

Managing Regulatory Risks	Passive Strategy	Active Strategy
Strategy	Wait for regulations to arise or fines to occur before acting	Anticipate future regulations by identifying chemicals in products, especially chemicals of high concern (CoHCs), substitute CoHCs with safer alternatives, and test suppliers for conformance to corporate policies
Costs/Opportunities	<ul style="list-style-type: none"> <li>Increased costs for compliance and legal fees</li> <li>Vulnerable to government fines, product recalls, and future regulations</li> </ul>	<ul style="list-style-type: none"> <li>Higher initial costs for establishing and implementing programs</li> <li>Lower costs for compliance and legal fees</li> <li>Less vulnerable to government fines, product recalls, and future regulations</li> </ul>
Examples	Walmart, Target, Walgreens, CVS, Costco, and Unilever fined almost \$200 million (2011-2013)	Seagate Technology, PLC lowers cost of compliance and anticipates future regulations with chemical inventory system

Sources:

ChemSec, *The bigger picture: assessing economic aspects of chemicals substitution* (Goteborg: ChemSec, 2016), [http://chemsec.org/wp-content/uploads/2016/03/The\\_bigger\\_picture\\_160217\\_print.pdf](http://chemsec.org/wp-content/uploads/2016/03/The_bigger_picture_160217_print.pdf).

Mark Rossi, *The Business Case for Knowing Chemicals in Products and Supply Chains* (Somerville, MA: United Nations Environment Programme, 2014), [http://www.unep.org/chemicalsandwaste/Portals/9/CIP/Documents/UNEP%20CIP%20Business%20case\\_En.pdf](http://www.unep.org/chemicalsandwaste/Portals/9/CIP/Documents/UNEP%20CIP%20Business%20case_En.pdf).

Trucost, *Making the Business & Economic Case for Safer Chemistry* (New York: Trucost, 2015), <http://www.trucost.com/published-research/158/Business-Economic-Case-Safer-Chemistry>.



TABLE 2 Reputation Risks: Management Strategies and Their Potential Costs/Opportunities

Managing Reputation Risks	Passive Strategy	Active Strategy
Strategy	Assume regulatory compliance is sufficient and do not make effort to determine chemicals of high concern (CoHCs) in products or supply chains (beyond legal requirements)	Identify CoHCs in products and supply chains and substitute safer alternatives
Costs/Opportunities	If CoHCs found by governments, NGOs, or customers, vulnerable to: <ul style="list-style-type: none"> <li>• lower market valuation &amp; work satisfaction</li> <li>• lost customer loyalty, sales, and/or market share</li> <li>• shareholder resolutions, NGO campaigns, and lawsuits</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunities to: increase customer loyalty, sales, market share, worker satisfaction, and/or market valuation; capture positive press, reception from shareholders, and/or NGOs</li> <li>• Less vulnerable to shareholder resolutions, NGO campaigns, and lawsuits</li> </ul>
Examples	<ul style="list-style-type: none"> <li>• Lumber Liquidators stock down 70% due to formaldehyde in products as revealed by NGOs (2015)</li> <li>• Sigg AG USA files for bankruptcy due to BPA (2011)</li> </ul>	<ul style="list-style-type: none"> <li>• Skanska &amp; HP capture increased market share by meeting customer demands for safer chemicals</li> </ul>

Sources:

ChemSec, *The bigger picture: assessing economic aspects of chemicals substitution* (Goteborg: ChemSec, 2016), [http://chemsec.org/wp-content/uploads/2016/03/The\\_bigger\\_picture\\_160217\\_print.pdf](http://chemsec.org/wp-content/uploads/2016/03/The_bigger_picture_160217_print.pdf).

Mark Rossi, *The Business Case for Knowing Chemicals in Products and Supply Chains* (Somerville, MA: United Nations Environment Programme, 2014), [http://www.unep.org/chemicalsandwaste/Portals/9/CIP/Documents/UNEP%20CIP%20Business%20case\\_En.pdf](http://www.unep.org/chemicalsandwaste/Portals/9/CIP/Documents/UNEP%20CIP%20Business%20case_En.pdf).

Trucost, *Making the Business & Economic Case for Safer Chemistry* (New York: Trucost, 2015), <http://www.trucost.com/published-research/158/Business-Economic-Case-Safer-Chemistry>.

adequately regulate hazardous chemicals in returned products, they paid fines totaling almost \$200 million (see Table 1).<sup>24</sup> Product recalls are another serious regulatory risk. While companies may require their suppliers to avoid regulated substances, the complexity of supply chains means that companies need to routinely test products to ensure conformance. Companies are also at risk from added costs due to new chemical substance regulations, which are increasing faster than for any other environmental issue, including climate change.

**Reputation risks** are the potential costs of being exposed publicly with hazardous chemicals in products or supply chains. For example, Sigg AG USA Distributor first lost sales and then went bankrupt from lawsuits after the company failed to disclose BPA in its aluminum water bottles.<sup>25</sup> Lumber Liquidators' stock plummeted by 70% and its chief executive officer (CEO) resigned after non-governmental organizations (NGOs) revealed elevated levels of formaldehyde in its products.<sup>26</sup> Lower sales, reduced market valuations, decreased customer loyalty, and

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lawsuits are among the costs related to reputation risks (see Table 2).

**Redesign risks** are the potential costs related to the continued use of hazardous chemicals in products and manufacturing processes and not redesigning or reformulating products before regulations change or markets shift (see Table 3). Losing market share to a competitor that innovates and replaces hazardous chemicals with safer alternatives, and missing out on faster than average growth rates in markets for safer products are examples of redesign risks. Being forced to change product design under crisis conditions

TABLE 3 **Redesign Risks: Management Strategies and Their Potential Costs/Opportunities**

Managing Redesign Risks	Passive Strategy	Active Strategy
Strategy	Await crisis conditions, regulatory or market pressure, before reformulating or re-designing product	Design products from the beginning to use safer chemicals, or develop plan to reformulate products over time
Costs/ Opportunities	Vulnerable to: <ul style="list-style-type: none"> <li>increased costs of reformulating products under crisis conditions</li> <li>lost sales and market share to competitors</li> </ul>	<ul style="list-style-type: none"> <li>Redesign or reformulate products on company's timeline</li> <li>Easier to recycle and reuse, consistent with circular economy</li> </ul>
Examples	Sony reformulation & lost sales of \$150 million due to cadmium in cables (2001)	<ul style="list-style-type: none"> <li>Shaw increased sales of flooring with PVC-free alternative by 15% (2000–2004)</li> <li>Coastwide Laboratories' green reformulation increased sales by 8% and customers by 15% (2000–2005)</li> </ul>

Sources:

ChemSec, *The bigger picture: assessing economic aspects of chemicals substitution* (Goteborg: ChemSec, 2016), [http://chemsec.org/wp-content/uploads/2016/03/The\\_bigger\\_picture\\_160217\\_print.pdf](http://chemsec.org/wp-content/uploads/2016/03/The_bigger_picture_160217_print.pdf).

Mark Rossi, *The Business Case for Knowing Chemicals in Products and Supply Chains* (Somerville, MA: United Nations Environment Programme, 2014), [http://www.unep.org/chemicalsandwaste/Portals/9/CiP/Documents/UNEP%20CiP%20Business%20case\\_En.pdf](http://www.unep.org/chemicalsandwaste/Portals/9/CiP/Documents/UNEP%20CiP%20Business%20case_En.pdf).

Trucost, *Making the Business & Economic Case for Safer Chemistry* (New York: Trucost, 2015), <http://www.trucost.com/published-research/158/Business-Economic-Case-Safer-Chemistry>.

is another redesign risk. Sony, for example, incurred over \$150 million in redesign and recall costs when it failed to removed cadmium from its Playstation products.<sup>27</sup>

Regulatory, reputation, and redesign risks are greatest for companies that sell directly to consumers, use large numbers of CoHCs, are unaware of these chemicals in their products and supply chains, do not replace these chemicals with safer alternatives, and/or have not implemented comprehensive policies, programs, and practices to manage them.

Financial opportunities—increased sales and market share, higher rates of customer loyalty and employee satisfaction, and lower compliance costs – abound for companies employing active strategies. In this report we distinguish between two types of active strategies that companies employ: “continuous improvement” and “design for health.” Companies employing *Continuous Improvement* strategies are integrating safer chemical policies, procedures, and practices into existing product lines and new product development. Companies employing *Design for Health* strategies are implementing safer chemical policies, procedures, and practices into all elements

of their business, including marketing, business development, and research and design.

### Value of Chemical Footprint Project for Investors and Purchasers

The Chemical Footprint Project holds the potential to provide significant value to investors, purchasers, manufacturers, and brands as it establishes a common standard, provides a platform for substantive investor and purchaser engagement with stakeholders, and creates a market differentiator for manufacturers and brands. As Mary Ellen Leciejewski of Dignity Health (the fifth largest non-profit health system in the U.S.)<sup>28</sup> highlights in the sidebar, a common standard is fundamental to evaluating companies consistently and provides a basis for cross comparison. Investors and purchasers can now ask companies for their Chemical Footprint scores and the data behind these scores, which will allow an in-depth dialogue about chemicals management practices. Finally, these scores can be a market differentiator and thereby provide a competitive advantage for business leaders in chemicals management.

## Why Health Care Values Chemical Footprinting

Dignity Health's commitment to the Chemical Footprint Project furthers our mission and vision of improving quality of life for our patients, staff, and the communities we serve. Environmentally preferable purchasing and utilizing safer chemicals in health care is important because as a provider, we have an obligation to make the best choices on behalf of our patients. Regardless of a patient's need to visit our facilities, we serve as their advocate. Everything from the tissues in the waiting room to the medical device that may be implanted into their body needs to be considered for safety, especially since many of these decisions are made on their behalf. One of our main priorities is to ensure they maintain their dignity while being a patient.

The same applies to our staff. We have an obligation to ensure that our staff are safe and also have an understanding of the products we use—how they're made, what's in them, and whether they can be recycled. We're also invested in an evidence-based decision-making process. When it comes to procurement, the Chemical Footprint Project fills a critical missing gap in sustainability data. The information collected by the Chemical Footprint Project assessment will enable us to include a company's key sustainability metrics, specifically around chemicals, into the decision-making process.

The Chemical Footprint Project provides a standard metric with which we can engage our suppliers and measure their progress to safer chemicals in the products we purchase. For our suppliers, the Chemical Footprint Project creates long-term value by enhancing brand reputation, increasing sales, promoting innovative products, increasing supply chain reliability, and avoiding the high costs of chemical crises.

**Mary Ellen Leciejewski**  
Director of Ecology



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